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ABSTRACT

This paper provides a checklist of suggestions, hints, and competencies needed to take an online course from ideas to reality. The introduction addresses the pedagogical potential of the World Wide Web. Migrating the course to the online environment is discussed in the first section, focusing on the following considerations: determining course objectives; etiquette; developing course materials; reviewing existing course materials; access to library materials and the instructor; and organizing course materials and the course plan. The second section addresses managing groups in the online environment, including the factors of time, group size, overcoming distance, getting started with collaborative learning, and examples of group activities. Developing Web content for the Internet course is considered in the third section, including content writing and hypertext, writing style, and interactivity and non-linear content. The next section covers assessment and evaluation issues, including formative and summative evaluations, dialogue, chat room visits, student assignments, and group assignments. The fourth section covers choosing courseware for online instruction, and a table summarizes suggested collaborative projects for the distance learning environment. (Contains 13 references.) (MES)

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TAKING INSTRUCTION ONLINE?

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Abstract: Taking instruction online? So what do you do now? This paper will provide a checklist of suggestions, hints, and competencies needed to take your course from ideas to reality. Topics include adapting a syllabus, pedagogical concerns, integrating group work, discussion of administrative issues, developing and writing web content, using multimedia and courseware, and choosing assessment methods.

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TAKING INSTRUCTION ONLINE (?)

Introduction

Creating a learning community is important in the traditional classroom as well as in the online classroom. The differences between the two learning environments are obvious: face-to-face contact with the instructor is not possible unless students make the effort, face-to-face contacts with other students are not likely unless they make the effort, and nonverbal communication cues are lost that enhance student understanding and interaction. What this implies is that the instructor must set the climate for student learning using the computer as the medium. The new paradigm of education brought about by computer-mediated communication (CMC) is that the "key to the learning process is the interactions among students themselves, the interactions between faculty and students, and the collaboration in learning that results from these interactions" (Palloff & Pratt, 1999, p. 5).

Adult learners in the distance learning environment are motivated to seek meaning from a new learning setting and will become comfortable in that setting when they are able to apply what they are learning to their own lives and situation. They cannot begin to make sense of the new setting and the learning without specific course objectives and guidelines, continuous feedback and evaluation, and access to the instructor. The sections, which follow, will suggest meaningful methods to help learners and the instructor adjust to a new learning and teaching location.

Pedagogical Potential of the WWW

Recent theorists in educational circles (*constructivism*, Brooks & Brooks, 1993; Cranton, 1994; *active learning*, Myers & Jones, 1993; and *transformative learning*, Mezirow, 1991; Sherry & Wilson, 1997) attempt to bridge the gap between the traditional paradigms of education and the new computer-mediated paradigms. *Constructivist* and *active learning* theorists suggest that learners *actively construct* knowledge and meaning through experimentation, exploration, manipulation, and testing based on past experience and accumulated knowledge.

Transformative learning, according to Mezirow (1991), is an unanticipated result of online learning. Students' perspectives are *transformed* when problems are encountered that cause learners to reassess prior knowledge, beliefs, relationships, or experience. Just getting involved in an online learning environment challenges students' traditional perspectives of learning. Students and instructors relate differently to each other, thus forcing students to rethink the roles of learner and instructor. The learner can pause and reflect on what he or she is learning; the instructor can develop new understandings of the subject and the learner.

For the most part, transformative learning is an unconscious process but has far-reaching implications for instructors who must make room for more independence, competence, and reflection in their learners. Palloff and Pratt (1999) summarize this transformative process, as follows:

> …personal growth becomes a companion to intellectual growth as the student assumes greater responsibility for the learning process, competence, authority, self-confidence, and an overall sense of mastery and power (p. 131).

Migrating the Course to the Online Environment

Over a four-year period, the authors have been involved in teaching a total of more than 15 online courses. When teaching and learning leave the classroom, the instructor has to create a vessel within which the course is launched. The challenges that face the instructor can be daunting. The discussion below focuses on each of the challenges that an online instructor should consider for successful online teaching.

Determine your course objectives. In advance of teaching the course, determine your course goals, objectives, and preferred learning outcomes. They can be much the same as for the same course taught in the traditional environment. Students learn differently, however, in the online medium. They not only have to process information but they have to both access *and* process information.

Etiquette. Setting up class guidelines as a group at the beginning of the course will alert students about appropriate behavior and communications during the course. Just as in the offline class, students who have input into the management of the online class will act to curb inappropriate remarks by other class members.

Developing your course materials. Don't think in terms of developing a "new" course -- you aren't! You are simply changing the delivery method from a traditional to a distance method. Initial development of online course material is very labor-intensive. Give yourself enough time. Combine materials in print, video, voice, and audio to develop non-linear, linkable content. Keep technological constraints in mind. Don't use a technology so sophisticated that your students are not likely to have access to it. For example, do not develop video materials if your students' computers are not up to the challenge.

Review your existing course materials. Your course materials may have to be altered or adjusted due to the new delivery method for your course. Take advantage of the online environment by providing students with relevant hyperlinks to web-based material within your course content. Examples and simulations can be found online. Use them to give a "real-world" feel to your course.

When developing your lecture materials, use a conversational tone. Otherwise, your students will simply feel like they are reading another textbook. Keep the material lively--dry and terse. You have to work harder to keep the students' focus and attention in the online environment. Utilize the principles of collaboration and active learning. Choose textbooks for your online course that are supportive of the online environment. Some have Internet components, activities, and websites for the student. Personalize the materials; use what-if's and humor if they are appropriate and add to the content.

Constantly review and revise your course materials. Technology changes rapidly; update your course as you can add new and exciting elements that can enhance your course materials.

Access to library materials and the instructor. The feeling of information overload can be averted at the beginning of the online class by providing a "starter" list of resources and links that can be amended and expanded over the duration of the course. In this way, students will not spend needless time searching the Internet for an unknown target. If a research project is required as part of the course evaluation, students may need access to on-campus library materials. Access to the on-campus library materials may require the services of an instructional services librarian, a specific password, and additional plug-ins to read the materials. For students who do not have the bandwidth to accommodate large amounts of data in single files, encourage them to work with their group members to obtain these materials. Copyright issues also must be addressed so that the fair use considerations are not overextended.

To successfully conduct online classes, all participants (students and instructor) must have access to and be familiar with the technology to be used. The comfort with both hardware and software contributes to a sense of psychological well-being and to a greater likelihood of participation (Palloff & Pratt, 1999). The learning curve for new students in the online environment will require more involvement with the instructor at the beginning of the course and may require group members to spend more time than normally expected of group members. All of this should be incorporated into the learning and teaching process.

Additionally, technology problems--computers crash, ISPs go down, and large amounts of online traffic at peak times--occur that prevent students from completing work in a timely manner or prevent access to group

meetings. A certain amount of leeway needs to be built into the course to take these unforeseen occurrences into account. Instructors will only know about these problems if they stay in touch with and are available to their students. Develop a back-up plan in case the inevitable happens!

Organize your course materials and course plan. Become relentlessly organized. If you attempt an online course without adequate preparation and organization, you'll be overwhelmed. Be prepared--but also be flexible and roll with the punches. Keep your administrative course materials available on the course website for the student--syllabus, class schedule, instructor contact information, technical support information, academic integrity policy, testing policy, and others. You might consider developing a set of Internet help documents for your students, such as documents on viruses, using attachments, cybersafety, and more. This, in the long run, will likely cut down on student questions, and, thus, your email!

Managing Groups in the Online Environment

The change to online teaching necessitates a focus on learner-centered instruction rather than a content- and faculty-driven approach. In this environment, student work and peer evaluation are encouraged with the instructor facilitating the process wherever it may lead. Collaborative learning techniques create an equal playing field where the interaction often occurs throughout the group instead of between one participant and the facilitator. Both students and instructor act as group members, contributing to the learning process (Palloff & Pratt, 1999). Consider the following factors as they relate to managing groups online.

Time. Time in the distance learning environment takes on many meanings. The discussion below touches on three critical points:

1. First, Web environments are "multi-speed" (Harris, 1994). Learners have the capability of accessing materials on their own time and over time. Materials provide the cohesiveness needed to engage learners and establish themes for interaction and discussion.
2. Second, time relates to feedback that is critical to maintain students' interest and interaction with the instructor and their peers. From the beginning of the course, acknowledgement of the students through initial online contact must be attempted--even before moving into the course content. Throughout the course, however, access to the instructor remains one of the highest needs for students. Set up a schedule to deal with time and access issues.
3. Third, the amount of time to prepare and administer an online course may be roughly as much as two to three times greater than it takes to prepare for and deliver an offline course. Time must be spent reviewing assignments, reading student and group posts, responding to individual and group posts, dealing with individual questions, and reading student and group assignments. Simply posting material and walking away for a week may result in an overload of messages and posts, making it difficult to re-enter the class discussions. Setting up groups in the online environment takes special attention to actual mileage distances between students, experience with online learning, fields of expertise and employment, and other personal considerations known only to the instructor. In the online environment, the instructor cannot simply divide the group by counting off by fours. Paper creation of the groups, notification of the group membership, access to group tools (such as chat rooms, email addresses, group Web pages, etc.) must be arranged, and working with each group in its own time must be carefully thought out and planned.

Group size. Closely related to time are issues of group size--mainly due to the ability of the instructor to maintain some semblance of control over the process without undue information overload for students. Factors to consider in setting up groups include the level and skill of the facilitator and students, knowledge of the electronic medium, content discussed or explored, assignment resulting from the group work, and the means of discussion or exploration. For the instructor and the students, five to ten members is an ideal

number. However, if the collaborative work is an original paper or case study and online presentation, a smaller number of group members and staggered posting dates would be better. Graduate students can work in larger groups better than undergraduate students, who will need more assistance and input from the instructor.

Guidelines for group work are just as important (if not more important) in the online class as in the offline class and should be posted close to the beginning of the class. Each group needs a team leader, a convener, an arbiter, and a recorder. Group differences should be handled within the group itself and online if possible with the instructor. Participation is an important part of group work and the final grade; group members should evaluate each other's participation and contributions to the project with the resulting score being factored in for each group member. Scheduled electronic meetings with each group and the instructor are critical throughout the progress of the project.

Overcoming distance. The impact of the distance learning environment can lead to feelings of isolation or alienation unless the instructor is willing to commit the time and energy to being available and responsive to students' questions and assignments. Ways to assist the learner in overcoming the "lost in cyberspace" feelings must be incorporated into the course. Being assigned immediately to a discussion or project group may help overcome these feelings of unconnectedness and dissonance discussed previously. With no frame of reference and/or prior experience, connecting with other students from the very beginning of the course is crucial.

Getting started with collaborative learning in DL. Given that team products can be displayed (and should be) to class members, the resulting project should reflect well thought out guidelines and directions. Since the opportunity to discuss all questions related to the group project(s) cannot be accomplished face to face, the instructor must anticipate FAQs and post them along with the guidelines. In addition, as other questions are asked during the course, these questions and answers also should be posted. Group assignments may start simply: pairs of students may be asked to email their thoughts and ideas regarding an assignment to the entire class. From this small beginning, other collaborative projects, such as group responses to discussion threads, may be incorporated. Always provide good directions with specific deadlines.

Examples of group activities. Empowering students through shared leadership in the online course enhances their overall sense of interdependence, accountability, and participation. A number of generic cooperative learning methods are amenable for the online environment. Table 1 (at the end of the paper) illustrates a number of projects from the literature as well as from experience. The interactions also are tied into each activity. From the presentation of the activities in Table 1, one can see the wide variety of activities that can be incorporated into the online classroom. As technology continues to evolve and bandwidth increases, video streaming techniques will enhance the same time/different place phenomenon which occurs in asynchronous learning. Further discussion and activities may be found in *Web-Based Instruction* (Khan, Ed., 1997).

Developing Web Content for the Internet Course

Writing content for the web-based course is different than writing content for other media, such as print. Great print design is likely to be poor web design. Print design allows users to walk through the information and look at objects and information that enhance each other. It is a "canvas" experience. Web design should allow for interaction and user movement through hypertext. It is a "scrolling" experience. As a result, we have to change our writing style to reach our online audience, the students. If lectures are written properly, they should not have to be printed. Students should be able to get what they need from the screen or a file. However, browsers are not especially supportive of easy-reading documents since they are typically set for small fonts and typeface. Keep font size in mind when writing your content. Documents that are written as .txt or .doc documents should be able to be read online. Adobe Acrobat files should, on the other hand,

never be read online and students should be advised to print them.

Content writing and hypertext. Writing content for the web and writing hypertext (HTML) are two different concepts. Writing hypertext is a skill that is separate and apart from writing content. Writing hypertext is actually designing the website from a technical point of view. Writing content is filling in that website with something meaningful to your course. Web content should be developed by the professor and then be converted to hypertext by technical support personnel. The use of hypertext and linkable material is what enhances your online course and makes an online course a rich experience. It allows your content to be connected to relevant Web resources. As a result, it gives your student a new depth of understanding and adds a new dimension to course lectures. Print content is still superior to web content because of speed, type, and image quality. The Web is superior in terms of interaction and user engagement. As time passes and technology advances, these differences will become blurred. Every year, users get 50% faster bandwidth. Within 3-10 years, users may prefer reading on the Web to reading in print.

How do students read on the web? Students, specifically, and web users, in general, don't read on the web! They scan. About 79% of users scan web pages. Only about 16% read them word for word. In general, the Web is good for certain types of information retrieval: chunking and scrolling (Kilian, 1999). *Chunking* is the process of breaking your lectures or other information up into segments, preferably 100 words or less. Chunks should always be visible on one monitor screen. Two or more chunks constitute a *stack*. Hypertext links should take the student from one chunk or stack to another as well as to other relevant websites (Bonime and Pohlmann, 1998). Put hyperlinks at the end of your chunks and stacks. The student will go to the other site and come back to yours. Scrolling web content is suitable for long documents like articles or even entire e-books. Scrolling, however, tends to tire out readers. If you have to use long documents in your course material, try breaking them up into chunks and stacks and connecting them with hyperlinks. Also, improve long documents that must be scrolled by providing lots of white space (for reader rest) and narrower columns.

Writing style. Cluster your content in logical order so students can easily move between chunks and stacks and utilize hyperlinks. Use headings and subheadings for readability. Use the inverted pyramid style of writing. Start with the conclusion. Then give the relevant facts and, finally, talk about the background. If students scan or read only the first part of what you have written, they will still, in this way, get the important information. Use active and not passive voice, as passive voice sounds dull on the Web. Remember that our students are used to responding to sound bites and 30-second commercials. Make your content jump at them with the "hook" being the first word, heading, or sentence.

Interactivity and non-linear content. The beauty of an online course lies in its interactivity. Use hyperlinks to supplement your course materials. Link your bulleted or numbered lists to the appropriate chunk of content. If you use a lot of hyperlinks, provide a table of contents or roadmap for the student so they don't get lost within your course. Use a non-linear approach to writing your content. A traditional lecture class is linear in nature. The online class, on the other hand, is linked to many sources that can lead the student in many different educational directions.

In writing web content, your goal is to create multi-tiered, multi-layered course material that is easy to follow with high readability.

Assessment and Evaluation Issues in Online Courses and Programs

Formative and summative evaluations are generally used to provide feedback to students on their on-going progress and upon final course completion. But does this model fit the dynamic, learner-centered nature of online learning? Research into assessment of online learning suggests that other viable methods should be built into the class structure. Some of these methods could also be translated to the traditional classroom.

If course guidelines and outcomes have been well defined, if student performance criteria have been established, and if students have been able to define their place in the course, then formative evaluation should be reasonably easy. Formative evaluation should take multiple sources of data into account, such as the quantity and quality of postings on discussions, participation in chat room meetings, performance in course assignments, and involvement in group activities. Several ways of determining if students are gleaning the most from the learning experience may include some of the following evaluation examples.

Dialogue. Continuously scanning the ongoing dialogue in discussion threads is a rich source of evaluation material. Stopping to post comments or ask questions during the dialogue also engages learners to extend the boundaries of the textbook or other written materials. Adults are a rich source of life and work experience; providing the runway for them to safely share these experiences will enrich course content and the online learning experience. Just adding comments to a discussion thread may not be enough for some students who are always concerned about the qualitative nature of their course participation. Borrowing on a line from a popular movie (*Field of Dreams*): *Give them points and they will come*. Instructors must realistically understand that not all discussions are voluntary. Changes in behavior (learning) can occur once students are engaged in meaningful dialogue with their peers and the instructor.

Chat room visits. Participation in synchronous discussions with the instructor and peers is critical in an online class. Participation points may be enough to entice students into the chat room environment. Collaborative learning techniques--ask an expert, panel discussions, press conferences, group-led discussions, or merely being available to clear up questions related to course or group assignments or materials--can build classroom ambience into the online environment.

Student assignments. Instructors in online courses may be concerned about cheating. Idealistically, if the course guidelines, objectives, and course environment (learner-centered, empowerment, self-reflection) have been planned well, cheating should not be a problem. The instructor has to build into evaluation the critical thinking aspects of the course and collaborative assignments. Evaluation needs to promote self-assessment, reflection, expert development in the subject matter, and production work that can be useful for others in the class. Learners only cheat themselves if they don't take advantage of peer experience and teaching. Assessing student and collaborative assignments may be accomplished by asking students to evaluate their own work before submitting it, complete learning contracts for a certain grade at the beginning of the course, share and evaluate others' work, and use of scoring guides which reflect the objectives established for assignments. Taking the time to add written comments throughout students' submitted work will add to their learning and willingness to participate and accept suggestions for improvement. The old saying: *Students won't care how much you know, until they know how much you care* holds a lot of truth in an environment where written cues are the only reliable tools instructors have.

Group assignments. Developing skills in giving feedback can be useful in the online environment and in the external world of work. Collaborative assignments provide the opportunity for students to extend and transform their own learning.

In the business world, 360-degree feedback (London & Beatty, 1993) comes from many sources. In the online course, the instructor can build 360-degree feedback through peer evaluation, self-evaluation, and his or her own evaluation into a group project--especially the capstone project. Students need to know from the beginning that peer evaluation will be a part of the final assessment for the project, and the evaluation instrument should be posted online for students to review. Then, as part of the final group project grade, the instructor's evaluation, the self-assessment, peer assessment, and group cohesiveness all can be summed together for the final grade. The instructor is the final arbiter of the group grade.

If an instructor wants to include examinations and quizzes in the evaluation of student work and group projects, additional planning needs to take place. Some courseware permits the creation of online tests and quizzes which allows students to receive immediate feedback and grades their answers. Additionally, the courseware also may post the grade in the student's personal online file and will not allow the student to retake or modify the test results. The issue of whether the student whose name appears on the exam or test is the person taking the test may arise. Some instructors prefer to have students take proctored exams or tests on-site--either in a campus classroom, a remote location with a designated person, or with a testing service. Whichever method is used should be made clear to the students at the beginning of the course.

Additional considerations. Assessment in the online course takes the instructor full circle from the beginning of the course to the end. Evaluating student group assignments and participation also should include consideration of the needs and learning objectives students identified at the beginning of the course, their educational level, experience with the subject matter and the technology, and issues related to writing.

Feedback *from* students related to course assignments, discussion threads, chat room visits, or group assignments is another form of assessment that can be built into the course or may occur as an unexpected benefit of the online relationship between the students and the instructor. Planning for and expecting feedback throughout the course will enrich the experience for both the instructor and the students. Feedback is a rich source of assessment, reflection, and continuous improvement of the course for the instructor. Students who are willing to trust the instructor to take comments with an open, honest spirit learn to own and share the online learning and teaching experience.

Choosing Courseware for Online Instruction

Now that we've considered some of the most relevant issues regarding taking instruction online, we must look at choosing a vehicle through which to deliver the course. Some instructors choose to deliver online instruction through their own web page. This is not an optimal solution since there are sophisticated courseware packages on the market--and more being developed all the time--that are excellent vehicles for course delivery.

Some of the more popular courseware packages are Blackboard CourseInfo at http://www.blackboard.com/ , Convene at http://www.convene.com/, and WebCT at http://www.usfca.edu:8900/. You want to choose a courseware package that is transparent and user-friendly. It should have features that make uploading your course materials seamless and easy, and it should not require the instructor to be a technician. The package should allow for printed, text content but also for audio, video and other multimedia features. There should be space to keep the instructor's files, both files in use for a particular course and files that are not being used at that time. Instructors should have an online gradebook function. Threaded discussion boards and a virtual chat feature should be included in order to facilitate class discussion and participation. A group area should exist to enhance collaborative learning.

Groups should have a private area in which to work on projects and exchange information. There should be a testing function where quizzes can be developed and taken online, loaded from a test bank, and automatically graded with feedback to the student and the grade transferred to the online gradebook. Each individual student should have an area in which to send files to the instructor, check their grades as recorded in the online gradebook, and develop a homepage.

Given all the issues we have discussed regarding taking learning online, the best courseware package should be chosen for the online course or program. Chances are this may be a university decision. If that is the case, faculty experienced in online learning should have significant input into that decision. Only faculty members know their needs for their online courses and programs and can give the administration valuable input when it comes to choosing the appropriate courseware package.

Conclusion

Distance learning makes education a possibility for millions of students. However, the learning environment is more intense, more learner-centered, and more demanding than the traditional classroom. By developing good guidelines and objectives, adapting exciting and useful course materials, making yourself accessible, and creating a learning community, both you and your students will enjoy the experience. Students and instructors have a lot to gain in the online classroom. What comes out of the collaboration transforms and empowers students to retain content, become involved and committed to the outcome, share in the success and failure of the course, and integrate the results into their personal lives. This is one of the most exciting aspects of online learning!

Table 1.

Suggested Collaborative Projects for the DL Environment

Activity	Interaction
Learning contracts	Between instructor and student; for participation
Discussion board groups	Between instructor and small group; among group members; for participation, team building
Capstone or culminating project	Between instructor and group; among group members; between groups; for closure, exploration, discovery, team building, communication, negotiation of understanding, elaboration and retention
Group Internet searches and sharing	Between instructor and group; between groups; for understanding, exploration and extension
Round robin or roundtable questions: input on issue--one group starts and passes on to the next group (could also be used individually)	Between instructor and individual; between instructor and group; for learning, participation, communication, discovery

Meet the Expert chat	Between instructor and group; between groups; for discovery, retention, understanding, clarification
On-line cybercafe (discussion thread or chat room)	Between students; between groups; for clarification, questioning, understanding
Press conference to launch capstone project to class	Between groups; instructor as observer; for communication, feedback, team building, closure
Group summary (of assigned reading) presented in discussion thread	Between group members; for understanding, clarification, communication, feedback
Original group posting in discussion thread related to topic or assigned reading	Between group members; for understanding, communication, feedback, clarification
Group Web Page (to introduce group or to introduce ideal work environment, etc.)	Between group members; for participation, motivation
Class Picture Gallery	Between instructor and students; for motivation, team building, community
Panel discussion (in chat room)	Between groups; for communication, team building, motivation

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